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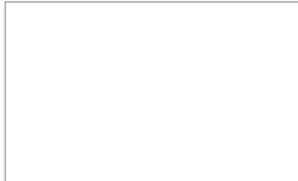
14 October 1957

MEMORANDUM FOR THE RECORD:**SUBJECT:** Report of Photographic Suppliers Meeting held at Boston,
Mass. on 9 October 1957**I. PURPOSE OF MEETING**

To review and evaluate status of all camera systems and associated gear from a design, development, production, maintenance and operational viewpoint and to determine areas requiring particular emphasis during next six months in order to obtain the maximum capability during the forthcoming season.

II. PERSONNEL ATTENDING MEETING

Proj. Hdq. - Mr. R. Bissell
Col. J. Gibbs



EK - Dr. H. Yutzy

Hycan - Mr. McFadden



P&E -

LAC - Mr. Ed Martin

FOG - L/Col. S. Brewer
L/Col. R. Herrington

Representative Land Committee - Dr. J. Baker

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III - RECORD OF MEETING

1. Mr. Bissell opened the meeting at approximately 1100 hours.
He discussed the following items:

A. Introduction

a. Material to date has had a great impact on intelligence community in Washington. Present planning indicates program will continue at least one more season and possibly longer. It is quite probable we will run a minimum of 2 or 3 more missions during this present season.

B. Factors Affecting Contractor Personnel

a. Operationally and security wise, Adana considered best location for continued operations in Europe. Contractor personnel will be approximately same in numbers as at present. During the operational season there will be about [] people and [] in Far East, and [] at Adana. During the slack season, the tentative plan is to reduce both personnel and a/c assignment [] at Adana [] at Atsugi). The present plan is to turn over any surplus aircraft

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to SAC during the coming winter months. Aircraft checkouts, equipment R&D flights will be continued by IAC [] To assist in our R&P program we plan to assign approximately 3 of our pilots [] during the next few months and if necessary additional pilots will be brought back TWX from units to support us []

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C. Projected Operations

a. Our future operations will require ferry flights thru Alaska to the Far East and to and from Adana across the Atlantic [] For the latter contingency we will have to stock fuel, parts, etc. []

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b. For the coming seasons it is anticipated a larger percentage of staging operations will be programmed. It is quite probable missions in Europe will be staged out of northern bases (i.e., Thule, etc.) and from SE Asia bases. It is anticipated Alaska will continue to be used next summer.

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D. Query to Contractors

a. Mr. Bissell requested Contractors review their equipment and personnel requirements with the view of increasing or improving mobility of detachments for staging operations.

2. In response to Mr. Bissell's query, Dr. J. Baker gave the following dissertation on his impressions:

A. He was disappointed in "B" Configuration. He felt the problem was threefold - 1. Reliability; 2. Focus; and 3. Personnel (Appreciation of maintenance problem). He was confident basic design of camera is good. He felt maintenance problems and many malfunctions were an accumulation of little things. He stated there appeared to be a gap between factory contractor personnel and their field technicians. He would like to see existing test equipment used properly, more attention of contractor personnel to detail and an increase of "feedback" of problem area results. He stated reliability of "B" should be a minimum of 80% but to get this will require constant attention to details. He further stated "B" camera results should be much better than those obtained with A-2.

B. In Jim's opinion the A-2 has paid off and the decision to go ahead with improvements on the A-2 was a wise one.

C. On the "C" camera Jim stated camera as designed is best that state of art can produce. He felt an additional 12" in focal length would have greatly simplified the design problem. He stated his guess was the "C" camera would produce a maximum resolution of 30 l/mm under operational conditions.

3. Dr. H. Yutzy when asked to comment on Dr. Baker's remarks stated he agreed with Jim's statements. Yutzy stated he was impressed with the large variability of photographic results; however, he felt overall quality was good but he stated there is a great deal of work to be accomplished this winter. A variety of closely controlled tests must be accomplished using the coordinated efforts of EK, P&E, Hycon and Proj. Hdqs. He further recommended the entire system be tightened up, i.e., pre-flights, post flights, maintenance, etc.

4. Tracker

[] and Dr. R. Scott, P&E
A. [] stated due to insufficient detail obtained through TWX's they have not been aware of deficiencies in equipment. Rod remarked that the majority of tracker material be reviewed at HTA on 3 October appeared to be overexposed. [] at this point stated EK would run both densitometric and sensitometric tests on exposed tracker film to determine degree of exposure on past missions and advise P&E.

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B. As a result of general discussion pertaining to overhaul of existing cameras vs ordering of new cameras. It was decided factory overhaul would give us sufficient reliability. [] stated it will take approximately 2 months turnaround time to run trackers thru P&E. This will vary according to amount of work required. Until such time as all of our Trackers are overhauled and returned to the Detachments the Trackers designated for FOG will be held for Project utilization. To prepare for overhaul (1) P&E will inform Proj. Hdqs. of quantity of Trackers they can handle efficiently on their overhaul schedule; (2) P&E will review status of Tracker spares. According to Rod, this review has been partially completed; and (3) Proj. Hdqs. will determine number of cameras which need factory overhaul, obtain serial numbers and coordinate shipment to factory with Proj. MAT and P&E.

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C. Film and processing-wise, [] remarked that a possibility exists that Tracker photographic results can be improved by a change in processing techniques and methods in field. He will investigate and advise. [] requested that we furnish EK an appreciable amount of exposed and unprocessed Tracker material. Proj. Hdqs. made arrangements to get this through our R&D representative []. Dr. Yutzy stated he believed different films or our present films with different films may also provide improved Tracker results. EK will check into this and advise Proj. Hdqs.

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D. A discussion on Tracker automatic exposure, level bubble and clocks closed the subject of the Tracker. The possibility of eliminating the automatic exposure control from the Trackers was expressed. It is contemplated as exposure programmer would be substituted for the automatic feature. Rod presented the thought that the level bubble could be omitted. Present bubble obscures part of format and from discussion during meeting does not serve a purpose that could not be easier or more accurately obtained through photogrammetric means. Proj. Hdqs. had no objection to removing level bubble, however, Lt. Col. Brewer indicated they used bubble position for tracing down a/c attitude in crash investigations as did Ed Martin, LAC. It was expressed by others present that there were other means to obtain data such as this. The third point brought up was that of getting a better clock for the Tracker. Proj. Hdqs. requested P&E to proceed with a study to give us answers to all three problems.

5. A-1 Camera Systems

A. Mr. Bissell stated there is no plan for extensive use of A-1; however, we will retain a limited capability at all detachments.

B. From standpoint of spares, we are according to Hycon, in good shape.

6. A-2 Camera System

A. The present stock of spare shutter blades (94) appears to be sufficient to see us at least through March 1958. In addition, Hycon has 20 blades which will be reconditioned. The March 1958 date is based on the number of missions run at Dets. A, B, []. Mr. Bissell suggested an additional 100 blades be procured by Hycon. Mr. McFadden recommended blades manufactured by Fairchild be obtained. Hycon will take initiative to procure. EK offered to handle the procurement for Hycon since Fairchild is involved, thus avoiding embarrassing questions to Hycon.

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B. McFadden stated he felt "soft" frames which occur on A-2 at times is caused by vacuum pulsing. Image displacement could be caused by auto pilot fluctuation. Ed Martin stated LAC and Hycon will meet on this problem plus investigation of possible mach sensor differences and variations in trim tab servo relay.

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C. McFadden further stated there is a focus problem at Det. C. This may be due to technique in collimation of equipment and/or errors in length of focus posts. Hycon is continuing their investigation.

7. "B" Camera System

A. All B cameras and shutters are being returned for factory overhaul. Latest modifications will be incorporated at time of overhaul and all components thoroughly checked. McFadden could not give an estimate as to overhaul time.

B. In addition to shutter, McFadden feels the other problem areas are vacuum and vibration.

a. Vibration which may be caused by IMC, film drive, oblique drive or shutter vibration (not shutter bounce). He also stated the mirror may need dampening to reduce vibration.

C. Jim Baker suggested using Rolite system to pinpoint direction and magnitude of vibration. McFadden would like to continue exploring means of eliminating this problem at Hycon prior to Rolite testing.

D. Rod Scott stated the possibility of the mirrors needing re-coating. P&E will check mirrors as the configurations are returned.

E. Filters will be checked by Hycon and P&E. Filter problem will be investigated jointly by EK and P&E. For example, P&E will provide B filter curves to EK. EK will check against film curves and advise. This will include a plot on film sensitivity using red filter. The spare 36" lens now at P&E will be used for filter and film test.

F. McFadden stated resolution-wise, the "B" should be better than the A-2. He estimated the "B" should give us [redacted]. Jim Baker added from a design standpoint focus is uniform throughout the field in the "B" but on the A-2 it falls off at the edges. [redacted] added it has been Hycon's experience that ground focus adjustments check with focus at altitude.

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G. McFadden stated Hycon has a "B" shutter with new bearings and switches undergoing bench tests. As of 8 October, this shutter has gone 50,000 cycles without malfunction. Test will continue until major breakdown or excessive wear is encountered.

H. McFadden indicated the tracking problem is not bad. [redacted] stated there is a continuing problem with flatness of film spool flange. Of three malfunctions, [redacted] claimed one was definitely caused by a loop in film provided by EK. In Hycon's opinion, the two other malfunctions could be attributed to (1) Tracking adjustment; (2) Spool flanged dished or there was a loop in the film. In closing, [redacted] said they have had recent film Tracking successes with 6,000' lengths at both [redacted].

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I. Regarding status of spares for B, [redacted] stated the remaining 10% of spares will be delivered in November 1957. Based on our past "B" experiences, Hycon will survey the spare situation to determine adequacy of their parts program.

8. "C" Camera System

A. The camera flew 8 October and transported all the way. No other information available at this time. In previous missions Hycon estimated an average of [redacted].

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B. Rod stated the No. 2 set of optics, now at P&E have checked out at 35 1/mm. Rod recommended and Proj. Hdqs. approved eliminating the yellow filter from this set of optics. After filter tests are run by

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✱ a clip type filter will be used in the "C" camera. He estimated #2 optics would leave P&E in one week.

C. Jim Baker stated 30 lines with C would be approximately same resolution as 60 lines on the B.

D. As a result of past experiences with the "B" Hycon will investigate using a system of baffles to eliminate any stray light leaks in the "C" camera.

E. [] stated as follows:

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- a. Radio noise continues to be extremely bad when using "C" camera. Noise level so high, on last test pilot could use only one or other at one time - camera or radio. (Hycon is working on means to filter noise).
- b. Need for particular pilot proficiency with "C" is exaggerated. In his opinion, a pilot proficient in use of drift sight will have no trouble with "C" camera.
- c. IAC is using 160 # ballast in tail when using "C" camera. This is also true when using System 4.
- d. With delivery of #3 optics sometime in December an additional aircraft will be needed for test purposes.

F. During the course of "C" camera discussion two items came up. One cutback of one set of windows for a "C" hatch and two eliminating one 300" collimator from our inventory. Action: On the morning of 14 October 1957, [] of Contracts, Proj. Hdqs. informed [] P&E that we are cancelling one 300" collimator and one set of windows for one "C" hatch). The glass blanks for the cancelled set of windows will remain in inventory, however.

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9. Personnel

A. Col. Gibbs outlined proposal to provide [] to be stationed at Adana. A possibility of interchange of personnel between detachments; and detachments [] was also mentioned.

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B. Hycon proposed [] remain at Detachment B and [] would go to Atsugi as Photographic Supervisor. [] would be employed as a roving Hycon representative. Hycon stated [] and [] from Detach. A have volunteered for any available slot and from Detachment B, [] have reupped. Col. Gibbs stated Proj. Hdqs. will reserve right to pass on suitability of Hycon personnel slated for overseas assignment. Subsequently, it was determined that [] will return to the ZI.

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C. Col. Gibbs requested P&E to arrange for documentation (passports, shots, etc.) for P&E personnel who may be required overseas. [] agreed to do this.

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D. [] and Ed Martin expressed a need for Proj. Hdqs. to define as R&D and production those tests existing or contemplated in future programs to be conducted [] Col. Gibbs stated meeting will be arranged [] for this purpose.

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E. [] mentioned rumors [] that our unit would be moved to [] in the near future. Col. Gibbs stated we have no intention to make such a move. He would object to such a proposal on security basis alone.

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A. Because of many variables the First Series of Red Dot Tests will be re-run. These tests are to be used to determine relative value of red and yellow filters. EK and Hycon will write up the tests and submit proposal to Proj. Hdqs.

B. An appreciable amount of exposed but unprocessed 70 mm film will be forwarded to EK. Material will be used to develop new chemicals and processing methods. Hycon through [] will deliver this material to EK.

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C. EK through [] will give us information pertaining to keeping quantities of film needed at Proj. Hdqs. for planning purposes. Hdqs. may have to return samples to EK for such tests.

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D. Hycon through [] is to tell us amounts and types of film they need for testing. They are also to inform us of available storage at Hycon, []. This information needed to assist Proj. Hdqs. in disposition of film now at Detachment A and EK.

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E. New "B" Shipping Container - Hycon wants support for flanges. At this meeting, Hycon provided [] (EK) with drawings of internal support which will satisfy their requirements for supporting flanges during shipment. [] will evaluate and advise Hycon of EK findings. Proj. Hdqs. authorized EK to put in a pilot order of 20 shipping containers.

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F. HTA representative mentioned scratches, dirt, grease pencil markings, etc. on original Tracker negatives received from overseas detachments. Previously, to prevent this Proj. Hdqs. proposed that units use dupe positive for plotting operations. Since this delayed submission of initial reports, units were later authorized to use originals. Col. Gibbs at this meeting directed that units be informed to revert to dupe positive utilization in order to protect the negative. [] Proj. Hdqs. Ops, taking action to notify detachments.

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G. Lt. Col. Brewer stated USAF will have three processing sites in operation by February 1958.

11. Miscellaneous

A. [] stated spare drift sight tubes needed. Every time a/c ground loops a drift sight is ground off. To this time, by cannibalizing, they have been able to equip a/c sent to overseas detachments [] but will be hard pressed in future without spares. Proj. Hdqs. Contracting will handle.

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B. Ed Martin is sending Proj. Operations three (3) copies of new aircraft handbook LAC made up 150 copies for USAF.

C. Ed Martin states LAC is ready to go ahead with voice recorder for our a/c. This was requested several months ago. System will incorporate provisions for putting voice on existing tape (System 1) [] Ed states quality will be similar to radio broadcast. Only item needed is a small filter box (about size of two cigarette packages). Cost will be approximately \$5,000 to equip ten (10) a/c. [] requested as confirmation from Ops that requirement for this recorder still exists. Informally, [] told [] of [] [] recently expressed desire to have this system incorporated in Project aircraft. Definite word must be sent to Ed Martin to equip some finite number of Project aircraft in this manner.

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D. Although the concept of sending a "team" to bases B [] was not discussed in detail, all parties have heretofore expressed their approval of such an idea and will cooperate actively in furnishing personnel.

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PS/DCI [] (10/16/57)

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Distribution:

- 1 - Project Director
- 2 - Dep. Proj. Director
- 3 - Dir. of D & P (Proj.)
- 4 - Dir. of Ops (Proj.)
- 5 - Dir. of Materiel (Proj.)
- 6 - Dir. of Admin (Proj.)
- 7 - Proj. Development Officer
- 8 - Commo (Proj.)
- 9 - OCTROI. SC-21-54 (T&P)
- 10 - [] BC-200 (T&P)
- 11 - [] FP-1054 (T&P)
- 12 - CARFISH, SP-1915 (T&P)
- 13 - FOG file (in Contracts)
- 14 - Trip Report file (in Contracts)
- 15 - [] (Eastman Kodak Co.)
- 16 - Mr. McFadden, Hycon
- 17 - Dr. Roderick Scott, Perkin Elmer
- 18 - Mr. Ed Martin, Lockheed Aircraft
- 19 - Lt. Col. Brewer
- 20 - Dr. J. Baker, Winchester, Mass.
- 21 - Dr. Land
- 22 - Proj. Chrono

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